

DR. SETI'S STARSHIP

Searching For The Ultimate DX

Blame It on Rio

"I think I'm seeing something," the intrepid Argonaut[†] stated on the closed signal verification e-mail list, and then proceeded to post a string of numbers representing date, time, right ascension, declination, frequency, and amplitude. "Anybody care to confirm?"

For a day and a half the e-mails flew freely, with half a dozen amateur radio telescopes trained on the same slice of sky, seeking a consensus. Ultimately, I was asked to proffer an opinion. "On a scale of zero to ten," I confidently proclaimed, "we can give this one a three."

An arbitrary attempt at quantification? Hardly! I was rating a detection on the Rio Scale, SETI's newest metric for assessing the importance of any claimed detection. It's my hope we will join our professional colleagues around the world in making the Rio Scale our measurement standard.

The Rio Scale is an ordinal scale between zero and ten used to quantify the impact of any public announcement regarding evidence of extraterrestrial intelligence. The concept was first proposed in Rio de Janeiro, Brazil (hence its name) by Ivan Almar and Jill Tarter in a paper presented at a major SETI meeting in October 2000. Under their leadership, members of the International Academy of Astronautics worked for two years to refine and perfect the Rio Scale in order to bring some objectivity to the otherwise subjective interpretation of any claimed extraterrestrial intelligence detection.

The Rio Scale was officially adopted by the international SETI community at the October 2002 World Space Congress in Houston, Texas. Within a month The SETI League was applying it to amateur observations. By December we had used it to discredit a blatant hoax. If it continues to catch on as well as the Richter Scale has for earthquake severity, then the public will have little doubt as to the importance of future SETI detections.

Anyone can do a Rio Scale analysis of any SETI signal detection, be it current, historical, or hypothetical. One merely needs to answer four questions about the class of the reported phenomenon, the type of discovery, the estimated distance to the source of the phenomenon detected, and the credibility of the person or organization reporting the data. Crunching the resulting numbers yields a single integer, zero to ten, which we can then report to one another and to the press.

If you have access to the internet with a JavaScript-enabled browser, you are invited to try your hand at an interactive Rio Scale Calculator. Browse to <<http://iaaseti.org>> and follow the Rio Scale links. Radio buttons enable you to quickly enter the particulars of the detection being analyzed. The calculator software computes the resulting Rio Scale value for the event under study. Members of the scientific community and the press can use this tool for estimating Rio values during analysis of SETI

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Rio	Importance
10	Extraordinary
9	Outstanding
8	Far-reaching
7	High
6	Noteworthy
5	Intermediate
4	Moderate
3	Minor
2	Low
1	Insignificant
0	None

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candidate events, and are encouraged to assign Rio Scale values in quantifying their estimates of the importance of any reputed detection.

The Rio Scale is a tool for dynamic, rather than static, analysis. Throughout the life of any candidate SETI event, as research is conducted and verification measures pursued, new information is constantly being made available which will impact our perceptions as to the significance and credibility of the claimed detection. Thus, the Rio Scale value assigned to any SETI detection can be expected to change significantly (either upward or downward) over time. In the case of the Project Argus detection already cited, during the course of a week's observations the assigned value slid from three down to zero, when the source of the signal was finally traced to terrestrial interference.

This wasn't ET calling home—but it might have been. When "The Call" is finally intercepted and we assign it a high Rio Scale value, I'm willing to bet the detection will have been made by a SETI League member. 73, Paul, N6TX